

Name: _____

Due Date: _____ 2nd Day of School

MATH REVIEW PACKET FOR STUDENTS ENTERING ALGEBRA II

PURPOSE:

To maintain a high quality program, students in sequential courses are expected to remember the basics of the mathematics topics they were taught. Therefore, students who have completed Algebra and are entering Algebra II should take the initiative to review the basic Algebra concepts and processes prior to the start of the school year. The Mathematics Department has prepared this review packet for the above purpose.

Since this material is designed as a review, in general, it can be used most effectively several weeks prior to the start of the course. It should be completed early enough before the beginning of the school year to allow time to get any necessary extra help.

At the start of next school year's mathematics course, this completed packet is to be turned in and a test will be given to assess the student's knowledge of the covered topics.

TOPICS IN THIS REVIEW:

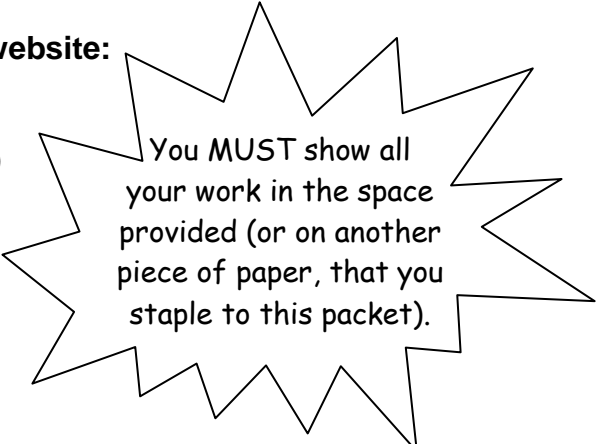
- I. Operations with Polynomials
- II. Solving Linear Equations
- III. Solving Proportions
- IV. Linear Equations in Two Variables
- V. Solving Systems of Linear Equations
- VI. Factoring Polynomials
- VII. Radicals

If additional help is needed long onto the following website:

<http://my.hrw.com>

Username: shelp4

Password: t7e9x (password is case sensitive)



You **MUST** show all your work in the space provided (or on another piece of paper, that you staple to this packet).

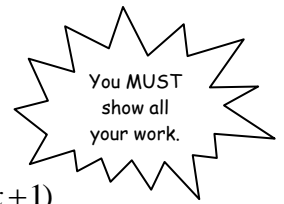
Please visit the High School Math Web Page for additional copies of the review packet, the review packet answer key, and additional math resources.

The address is: <http://umhsmathwikispaces.com/>

Enjoy your summer!

PART 1: OPERATIONS WITH POLYNOMIALS.

Perform the indicated operations and simplify.



1. $-2(5x-11)$

2. $\frac{1}{2}x(8x+6)$

3. $2x-3(4x+1)$

4. $(x^2+5x+3)+(2x^2+8x+8)$

5. $(5x^2-4)-(3x^2+8x-6)$

6. $(7x^2+4x-3)-(-5x^2-3x+2)$

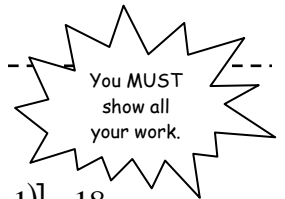
7. $(3x+2)(5x+4)$

8. $(2x+6)(x-1)$

9. $(5x-2)^2$

PART 2: SOLVING LINEAR EQUATIONS.

Solve.



10. $6x-3=2x+13$

11. $8-2(x+1)=-3x+1$

12. $2[x+3(x-1)]=18$

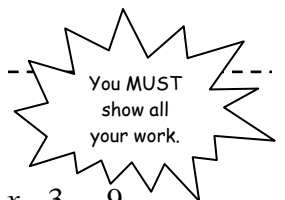
13. $5+2(x+4)=5(x-3)+10$

14. $8x-5(2+x)=3(x+2)$

15. $-2(3x-5)+3x=10-3x$

PART 3: SOLVING PROPORTIONS.

Solve by cross-multiplying.



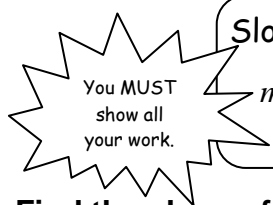
16. $\frac{3}{15}=\frac{x}{45}$

17. $\frac{x+2}{5}=\frac{7}{5}$

18. $\frac{x-12}{6}=\frac{x+7}{-4}$

19. $\frac{x-3}{x+5}=\frac{9}{11}$

PART 4: LINEAR EQUATIONS IN TWO VARIABLES.



Slope Formula

$$m = \frac{y_2 - y_1}{x_2 - x_1}$$

Slope-Intercept Form

$$y = mx + b$$

Point-Slope Form

$$y - y_1 = m(x - x_1)$$

Find the slope of the line passing through each pair of points.

20. (3, 4) and (4, 6)

21. (-1, 11) and (-5, 4)

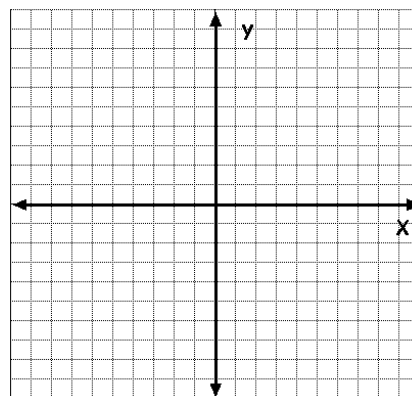
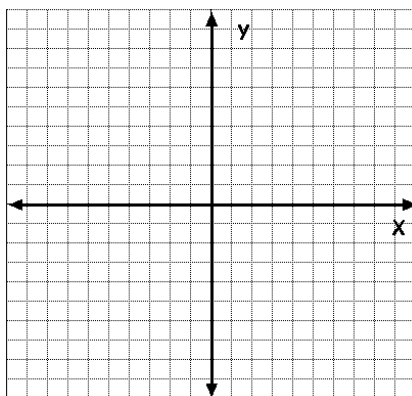
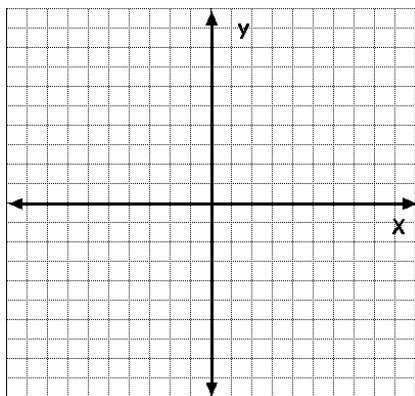
22. (14, 3) and (-11, 3)

Graph each of the following equations (hint: make sure each equation is in slope-intercept form first).

23. $y = \frac{3}{4}x + 4$

24. $y = -\frac{3}{2}x - 5$

25. $-6x + 2y = 8$



Use the given information to write the equation, in slope-intercept form, of the line described.

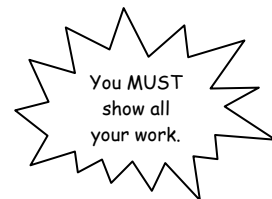
26. $m = -\frac{2}{3}$ passing through (5, 4)

27. $m = -\frac{1}{2}$ passing through (-6, -3)

28. Passing through (-2, 4) and (2, -8)

PART 5: SOLVING SYSTEMS OF LINEAR EQUATIONS.

Solve each system of equations by either substitution or linear combination/elimination.



29. $3x + y = 6$
 $x = y + 2$

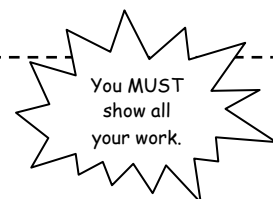
30. $2x - y = -4$
 $-3x + y = -9$

31. $x - 2y = 5$
 $3x - 5y = 8$

32. $12x - 9y = 114$
 $7y + 12x = 82$

PART 6: FACTORING POLYNOMIALS.

Factor completely.



33. $16y^2 + 8y$

34. $18x^2 - 12x$

35. $x^2 - 64$

36. $3x^2 - 27$

37. $x^2 + 12x + 20$

38. $x^2 - 11x + 18$

39. $x^2 - 2x - 63$

40. $2x^2 + 12x + 16$

41. $3x^2 + 30x - 72$

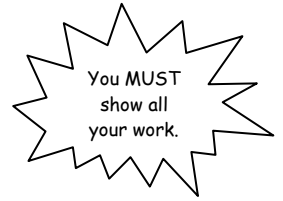
PART 7: RADICALS.

Simplify each radical (remember, no decimal answers).

42. $\sqrt{100}$

43. $\sqrt{72}$

44. $\sqrt{75}$



45. $\sqrt{80}$

46. $2\sqrt{5} \cdot \sqrt{5}$

47. $5\sqrt{10} \cdot 8\sqrt{2}$

48. $5\sqrt{5} \cdot 3\sqrt{20}$

49. $7\sqrt{30} \cdot 2\sqrt{6}$

50. $4\sqrt{3} + 7\sqrt{3} - 2\sqrt{3}$

51. $4\sqrt{6} + \sqrt{7} - 6\sqrt{6} + 4\sqrt{7}$

52. $2\sqrt{3} + \sqrt{12}$

53. $2\sqrt{50} - 3\sqrt{32}$